**Fetal Alcohol Spectrum Disorder Prevention Program:
SBIRT's role in averting Fetal Alcohol Spectrum Disorders**

Maria Manriquez, Jacquelyn Starer, Vanessa Parisi, Erin Tracy, Tonya McFadden, Lily Penney

Corresponding Author

Maria Manriquez, MD, FACOG (Fellow American College of Obstetricians and Gynecologist)

Professor, Department of Obstetrics and Gynecology

University of Arizona College of Medicine Phoenix

435 N. 5th Street

Phoenix, AZ 85004

mmanriqu@email.arizona.edu

Phone (W) 602-827-2390 (Cell) 480-292-5933

Jacqueline Starer, MD, FACOG

Associate Professor, Addiction Recovery Program

Brigham & Women's Faulkner Hospital

Vanessa Parisi, DO, MS, MPH

Assistant Professor, Department of Obstetrics and Gynecology

Hackensack Meridian School of Medicine at Seton Hall University

Erin Tracy, M.D., M.P.H, FACOG

Associate Professor, Obstetrics, Gynecology and Reproductive Biology

Harvard Medical School Boston

Tonya McFadden, MS, MSA

Director, Strategies for Health Equity

Fetal Alcohol Spectrum Disorders (FASD) Prevention Program American College of
Obstetricians & Gynecologists

Lily Penney, MPH

Program Administrator

Fetal Alcohol Spectrum Disorders (FASD) Prevention Program American College of
Obstetricians & Gynecologists

Abstract

Empowering obstetricians to assess and improve their own practices of SBIRT (Screening Brief Intervention and Referral to Treatment) in treating Alcohol Use Disorders (AUDs) and preventing Fetal Alcohol Spectrum Disorder (FASD) is the goal of the American College of Obstetricians and Gynecologist (ACOG) Fetal Alcohol Spectrum Disorder (FASD) Prevention

Program. The FASD Prevention Program is a CDC funded initiative of the ACOG which is the largest specialty professional membership organization in the United States. Obstetrics and Gynecology as a specialty is dedicated to the broad, integrated medical and surgical care of women's health throughout their lifespan. Understanding of reproductive physiology, including the physiologic, social, cultural, environmental and genetic factors that influence disease in women, is a major priority for ACOG. Preventive counseling and health education are essential and integral parts of the practice of obstetricians and gynecologists as they advance the individual and community-based health of women of all ages. The FASD Prevention Program aims to provide obstetrician-gynecologists with the resources and tools needed to communicate with patients and the communities they serve about alcohol use during pregnancy. This review describes activities to empower and educate providers to address Alcohol Use Disorder in pregnancy and the effect of FASD.

Keywords: Fetal Alcohol Spectrum Disorder, Obstetrics, SBIRT, Pregnancy, Fetal Alcohol Syndrome

Introduction

Alcohol, a known teratogen, crosses the placenta easily and causes some of the most serious neurobehavioral effects in a fetus. The fetal liver is unable to process alcohol like an adult's due to the lack of alcohol dehydrogenase activity and other antioxidants. Furthermore, the amniotic sac retains alcohol resulting in prolonged insult to the fetus due to fetal swallowing (Guelinckx, Devlieger & Vansant, 2011). The metabolite of alcohol, acetaldehyde, alters fetal growth and development by interfering with cell differentiation and DNA synthesis. It also causes a dysregulation of the hypothalamic-pituitary-adrenal axis and causes an elevation in serum cortisol levels (Keiver, Bertram, Orr, & Clarren, 2015). Fetal Alcohol Spectrum Disorders (FASDs) encompass a range of disorders caused by prenatal alcohol exposure. Fetal Alcohol Syndrome (FAS) is the most severe form of the disease which includes abnormal facial features, small stature, and central nervous system abnormalities. Individuals with Partial Fetal Alcohol Syndrome (pFAS) exhibit approximately two-thirds of the above FAS criteria. Alcohol Related Neurodevelopmental Disorder (ARND) is characterized by central nervous system deficits. Lastly, individuals with Neurobehavioral Disorder Associated with Prenatal Alcohol exposure Syndrome (NDA-PAS) experience behavioral effects of in utero prenatal alcohol exposure. Concerns are low birth weight, facial deformities, neurodevelopmental & intellectual delay, and social or conduct disorders on a lifelong basis. Individuals that are exposed to alcohol during the prenatal period can have difficulty with executive functions, such as planning, time perception, self-monitoring, regulating emotion, motivation and motor control (Hoyme et al., 2016).

According to the ACOG, committee opinion no. 496: At-risk drinking and alcohol dependence: obstetric and gynecologic implications (2011) alcohol use during pregnancy is one of the leading preventable cause of birth defects, developmental disabilities, and learning disabilities. It is estimated that up to 5% of young children are affected by FASDs. Approximately 75% of women of reproductive age engage in some alcohol consumption. The Center for Disease Control (CDC) Behavioral Risk Factor Surveillance System (BRFSS) found that 10% of pregnant

women report alcohol use in the past 30 days. Alcohol use is most prevalent in unmarried women, aged 35-44, who are college graduates or employed (Marchetta, 2012).

The CDC recommend that women who are sexually active abstain from alcohol when pregnancy is possible. No documented amount of alcohol regardless of the type or timing is safe during pregnancy (Stratton et. al.1996). Regular or binge drinking (4 or greater servings at one sitting) is especially problematic due to the spikes in blood alcohol concentration associated with binge drinking. Many women do not realize that they are pregnant until several weeks into the gestational period. Vital organs begin to form in the first 3-8 weeks of pregnancy, or about one week after the first missed menstrual period in a woman with regular menses this is a crucial time to abstain from alcohol to avoid major organ malformations. However, neurologic development occurs throughout pregnancy and therefore avoidance of alcohol for the duration of pregnancy is necessary to prevent ongoing abnormalities in neurologic development.

Screening, brief intervention and referral to treatment (SBIRT) is an evidence-based practice used to identify, reduce and prevent problematic use, abuse and dependence on alcohol and illicit drugs. SBIRT consists of three major components: screening in which a healthcare provider assesses patients for risky substance use behaviors using a standardized screening tool; brief interventions that engage a patient showing risky substance use behaviors in a short conversation that provides feedback and advice; referral to treatment that may be brief therapy or more comprehensive treatment for patients who screen in need of additional services. Screening and brief interventions at each visit have proven to be effective in bringing substance abuse to the forefront as well as decreasing ambivalence (Manwell, Fleming, Mundt, Stauffacher, & Barry 2000). Once the patient acknowledges her drinking and is willing to discuss the specific behavior of alcohol use the practitioner can engage SBIRT.

The practitioner would express his or her concern and advise change. By providing affirmations, the practitioner can gain the patient's trust and make her feel comfortable to actively move forward in her care. Reflective listening allows the practitioner to recap the patient's concerns and behaviors so that specific goals can be set, thereby increasing the chances of the patient's success in the program. Avoiding triggers, as well as setting small but achievable goals are important to include in the brief intervention. Motivational interviewing as a method of brief intervention is a patient-centered approach that does not force the patient to change but guides her to make her own decisions and exhibit positive changes. This practice will increase the likelihood of long-lasting behavioral change (Burke, Arkowitz, & Menchola, 2003; Honebrink, 2009). Lastly, a summary of the encounter with literature is provided to the patient for further understanding. A follow up appointment or referral is made prior to the patient leaving the clinic to increase compliance.

The goal of The Fetal Alcohol Spectrum Disorder (FASD) Prevention Program is to decrease the prevalence of this preventable condition. One of the strategies to achieve this aim is to focus efforts on at-risk pregnant women who drink. Although 96% of primary care providers admit to assessing for alcohol misuse and at-risk women, only 38% use a standardized assessment tool. Eighty-two percent of obstetrician gynecologists assess pregnant patient's alcohol use at the first prenatal visit (Diekman et al., 2000). Unfortunately, a 2010 survey indicated that only 10.6% ask about alcohol use at both the initial and subsequent prenatal visits (Anderson et al., 2010).

FASD Prevention Program History

ACOG has served a significant role in promoting the Surgeon General's Advisory on Alcohol Use in Pregnancy. ACOG has historically published perinatal care guidelines that recommend screening all women who are pregnant or planning to become pregnant for alcohol use, advising those at risk of the health consequences, and referring for treatment as appropriate. In 2005 the CDC funded ACOG, through a cooperative agreement, to develop a practical FASD Prevention Tool Kit. This tool kit aimed to help practicing ob-gyns and women's health care providers to quickly screen and counsel patients of reproductive age who could be at risk for an alcohol-exposed pregnancy. The tool kit was completed in 2006 and disseminated through ACOG to its membership in print form. The tool kit includes rationale and background research, the components of brief intervention, harm reduction messages, resource and referral information. It was packaged as a short provider guide and a pocket card with information to prompt the clinician for screening and intervention. Development of the tool kit was guided by an advisory committee composed of obstetrician/gynecologists (ob-gyns), FASD researchers and CDC staff. Review was also solicited from an ACOG Document Review Panel and a small cadre of practicing ACOG Fellows who do not hold leadership positions within the College to assure acceptability to practicing clinicians.

An internal ACOG survey conducted the following year in 2007 found that most ob-gyns were not aware of the toolkit (70.3%, n=265 of 377) with only about 6% of ob-gyns reported having the tool kit; and only one reported having used it. The apparent lack of awareness of or lack of interest in using this tool kit warranted re-visiting its practicality, revising it to better suit its users. This process was undertaken in 2010 through a CDC contract awarded to ACOG within which an assessment was made of the tool kit with practicing ob-gyns and women's health care providers to determine potential reasons for disinterest in or lack of use of the tool kit.

In the fall of 2011 ACOG convened focus groups and interviews conducted at a variety of meetings targeting a broad representation of obstetrician gynecologist. The assessment from the interviews were that most obstetricians felt that they had a role in screening and intervention but wanted to improve their approach in identifying at-risk women. Most communicated abstinence to their pregnant patients, although many felt that an occasional drink is not likely harmful. Overall it was believed that self-reporting is not accurate, and that patients under-report use of alcohol. A simple screening tool and intervention process that combines alcohol, tobacco and non-medical drug use was desired. Many of the respondents felt that they lack time to screen and intervene, lack easily accessible screening and intervention tools and local resource and referral info. As such they rely heavily on non-physician office or clinic/hospital staff to screen. When a validated screening tool used, it was usually reported to be the CAGE questionnaire, utilizing four questions that focus on cutting down, annoyance by criticism, guilty feelings, and drinking upon awaking (Ewing, 1984). Unfortunately, the CAGE questionnaire has never been validated as a tool for identifying at-risk drinking in pregnant women. When asked about the current ACOG tool kit the respondents included that the content of tool kit materials is

very good but too long, "remove the background information and tell me what to do." They liked the "frequently asked questions" section. They requested one good screening tool rather than many and liked cards with drink equivalent info and screening tool. They want to be informed in various ways including succinct, frequent e-mails and texts. There was great interest in improving web access of materials for physicians and patients. The participants of the focus groups communicated that ACOG consider podcast for ob-gyns. There was strong interest in using practice bulletins to communicate that the materials are available. They also felt that grand rounds increase awareness for the ob-gyn community. There was also interest in the development of a FASD prevention Maintenance of Certification and in including questions about alcohol use on the board examination.

In response to the feedback, a plastic pocket card was developed with the following content: Information on drink equivalents; the AUDIT 1-3 screening tool which is validated for pregnancy (Chang et al. 1998) (Dawson, Grant, Stinson, & Zhou, 2005) to be used with three questions on quantity and frequency of alcohol use; a sample brief intervention using a motivational interviewing script; national resources. The card along with information on the tool kit and web site was mailed to every ACOG member, state maternal child health directors, and residency program directors. Finally, FASD provider trainings were made easily available with a link for ACOG members. The web site www.womenandalcohol.org was developed to house the developed resources and links to other appropriate resources.

Accomplishments

In 2014, Centers for Disease Control and Prevention's (CDC) National Center on Birth Defects and Developmental Disabilities (NCBDDD) funded national partners to strengthen strategic partnerships with key national medical societies, professional organizations, and constituent groups. ACOG was an award recipient from 2014 to 2018 and paired with the University of Missouri Practice Implementation Center (MRPIC) to establish the OB-GYN Discipline Specific Workgroup (DSW). Over the past 4 years ACOG has participated as part of the CDC's cooperative agreement with the development of informational and training tools for obstetrician/gynecologists (ob-gyns) regarding FASD awareness and prevention.

The ACOG FASD (Fetal Alcohol Spectrum Disorders) Prevention Program has recruited fifteen Obstetrician-Gynecologist Champions across the United States with each ACOG district represented by one or more FASD Champions. These Champions serve as ambassadors, assist in project efforts, and educate ob-gyn peers regarding risky drinking, alcohol use disorders, and FASD and its prevention. Initially, Champions scheduled and presented lectures to residents and providers independently, giving twenty verified presentations with some support from ACOG staff. The success of these presentations in raising awareness around FASDs and their prevention gave rise to the Speakers Bureau, discussed below.

Speakers Bureau:

During this four-year grant period, priorities identified by the Champions included development of standardized presentations with a primary focus on FASD, and the creation of a Speaker's Bureau to facilitate the education of and networking with obstetricians across the country. These

presentations highlight the importance of screening and counseling patients, as well as referring for treatment as needed. The Speakers Bureau became active in April 2018 to facilitate Grand Rounds presentations for Champions at residency programs in their districts. With ACOG's collaboration with the Council on Residency Education in Obstetrics and Gynecology (CREOG) an appeal letter was sent to residency programs in June 2018 and by within a month thirty-one requests for presentations had already been received.

Education and Maintenance of Certification (MOC):

Other educational materials and MOC credit were also developed in a collaborative effort by ACOG and the University of Missouri. Two training modules that provided Continuing Medical Education (CME) credit as well as MOC part IV credit are available free to ACOG members. These modules are housed on the catalyst platform www.catalystlearningcenter.com (see graphic) and are titled "The Role of the OB-GYN in the Prevention of FASD" and "Alcohol SBI Training for the Healthcare Professional". Those physicians who complete the "Alcohol SBI Training for the Healthcare Professional" may also utilize a live encounter with a standardized patient (SP). To facilitate the participation of Champions in activities related to MOC Part II, Question Writing Guidelines were created and reviewed. Additionally, an article co-authored by two FASD Champions and published was included for one year for MOC part II (Wright et al., 2016). The CDC also developed a website with free online trainings for continuing education credit as well as additional resources for healthcare professionals, including ob-gyns specifically. These resources can be found at www.cdc.gov/FASDtraining.

Outreach and Collaborations:

There has been collaboration between ACOG and numerous other agencies and organizations. Marketing materials regarding FASD training modules have been developed and shared with CREOG to disseminate to 261 different programs. The National Organization on Fetal Alcohol syndrome (NOFAS) is another important partner. NOFAS has a representative at all the Champion meetings and partners with ACOG for the annual September FASD Awareness Month activities. NOFAS awarded ACOG and the FASD Prevention Champions with Leadership Awards at the 2017 annual NOFAS Gala. In addition, because of the ACOG collaboration with the American Indian and Alaska Native Women's Health Programs, the district II Champion, Dr. David Garry, was invited to present Project Choices at the 4th International Meeting on Indigenous Women's Health in February 2016.

ACOG also collaborates with the CDC to market their website and trainings in addition to its own. There are numerous routes by which these materials are shared via ACOG channels, including the District newsletters, President's Blog, Rounds Newsletter, Member E-Source, Annual clinical Meeting, YouTube, ACOG websites, and social media such as Facebook and Twitter platforms run by national and district chapters. FASD prevention information is included in exhibits at district and national ACOG meetings, at the Council on Resident Education in Obstetrics and Gynecology (CREOG), the Association of Professors in Gynecology and Obstetrics (APGO) Annual Meeting, and the Society for Maternal Fetal Medicine Annual meeting.

Clinical Guidance:

One of the most important tasks of the program is to directly support ob-gyns in their efforts to screen, counsel and provide appropriate treatment for their patients. It is recognized that reimbursement for the significant additional time needed to adequately address this clinical

issue is paramount to its effective implementation. To that end, a coding guide was developed to assist in receiving insurance reimbursement for Screening and Brief Intervention (SBI) services. Because of the variations in insurance coverage among different insurers, much work still remains to fully integrate into obstetrical and gynecology practices the identification and management of Risky Drinking and/or Alcohol Use Disorders (AUD) among preconception, pregnant, postpartum women, and during the parenting years.

Clinical tools have been provided for the ob-gyn such as “The Alcohol Use Guide” for patients and providers during the SBI process as well as fact sheets and most frequently asked questions to share with patients. There is a series of short videos for providers to use as a resource. A comprehensive reading list of the scientific literature related to FASD has been developed for OB-Gyn. There is also a state by state resource directory for treatment facilities and other local resources. These resources are available on the ACOG website.

Future Directions: ACOG intends to continue its innovative and collaborative work with ob-gyn Champions and national partners and will promote existing resources and develop needed supports to help engage all ob-gyns in implementing universal alcohol SBIRT.

In the coming years ACOG will continue to promote provider screening for risky alcohol use, including any alcohol use during pregnancy. In addition, ACOG plans to expand the FASD Champion network to reach more of the target audience. These expansion efforts will include recruiting Champions that represent the wide array of patient populations that ob-gyns work with, such as individuals who work in high-risk clinical settings and people from diverse backgrounds. This will help to reduce disparities in screening and brief intervention and in outcomes, including children born with FASDs.

Another major project goal for the coming years is to combat the stigma that birth mothers and individuals with FASDs still face. To this end, ACOG will work with NOFAS to create educational content for providers on stigma prevention.

Conclusion

Primary prevention, complimented by secondary and tertiary prevention to mitigate risk factors or potential harm respectively, is a powerful method of reducing the risks associated with FASD. The accomplishments of the Fetal Alcohol Spectrum Disorder Prevention Program include the development of training modules focusing on SBIRT that qualify for both continued medical education CME units and maintenance of certification (MOC) part IV credit as well as a MOC part II credit for an article co-authored by two FASD Champions. The program successfully recruited 15 FASD Champions that represent the different regions in the United States. Curriculum development is central to the program to integrate Alcohol Screening and Brief Intervention (SBI) into residency training by using virtual standardized patients and facilitate Champion grand round presentations at residency programs.

Several resources have been created that assist providers in implementing alcohol SBI in day to day practice, which include coding guidance and state-by-state directory with locations for

referral to treatment. Marketing materials were developed to propagate disseminating the material to members of the American College of Obstetricians and Gynecologists (ACOG), which include the Annual Clinical and Scientific Meeting, ACOG website and ACOG President's Blog: Setting the Record Straight on Drinking during Pregnancy that reached the entire membership of 57,000.

A promising enduring tool is investigating the integration of SBI into the EMR that providers use. The ACOG Prenatal Record (APR), powered by Dorsata is currently available to ob-gyns, presents an opportunity to help integrate alcohol screening and brief intervention (aSBI) into routine prenatal care and obtain data on screening and alcohol use rates during pregnancy. Although the Alcohol Use Disorders Identification Test (AUDIT) screening tool has not yet been integrated into the APR, there may be opportunities to do so in the future. The APR uses ACOG guidelines to create an individual care plan for the patient, which could include alcohol use reduction/cessation if she screens positive for alcohol use. The APR can facilitate real-time data exchange between the data entered at the point of care and the electronic health record. If aSBI were integrated into the APR, there is potential to garner a great deal of useful data regarding screening and brief intervention rates, rates of alcohol use during pregnancy, and rates of positive behavior change because of the intervention.

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